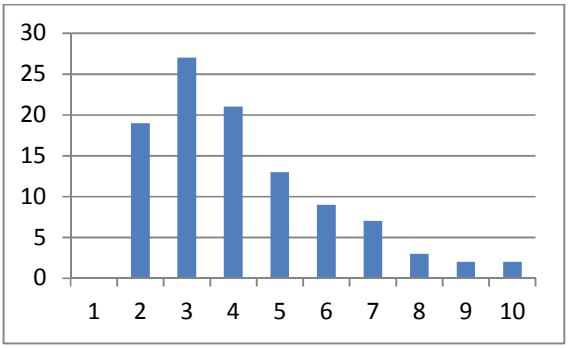
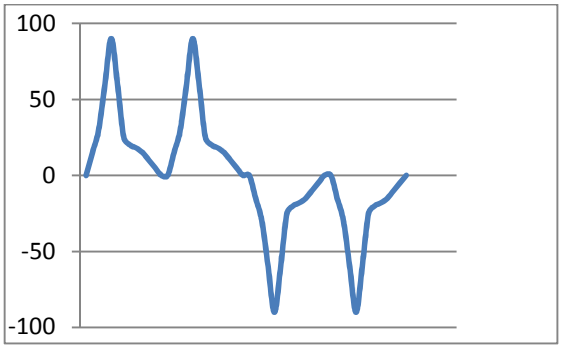
Harmonics

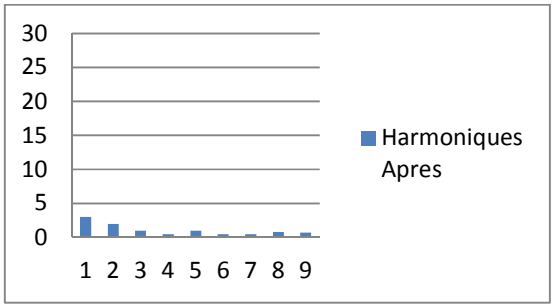
Unlike noises, harmonics, they pose a problem. They cover the frequency range between the base frequency and some KHz. When a harmonic frequency magnitude reaches significant value, it may cause immediate damage and long-term effects. Transformers heat up more than usually, corruption of capacitors, power consumption goes up and erratic function of equipment

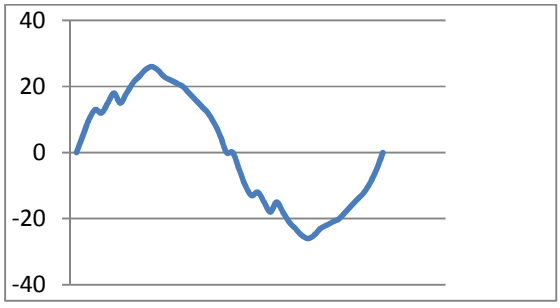
Harmonics before filter





Harmonics after filter



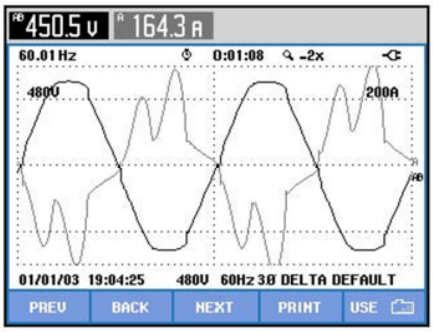


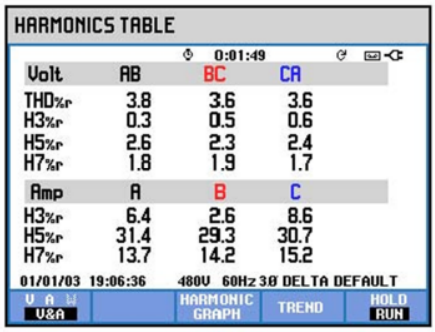
Facts

Harmonic pollution is a relatively new problem. It appears a polluter network, which can also be victim of harmonics. This pollution affects not only the installation, but also neighbouring consumers. Recent technology offer tools that remedies all irregularities that can occur on the network. In return, a non-negligible investment is required. Such protection will be more and more impose in the future.

Causes

Calculations showed that the presence of harmonic, single-phase equipment life is reduced by 32%, three phases motor 18% and transformer of 5%. This is the cause of the rise in temperatures caused by harmonics. It is true that motor with variable drive are cause and victim of harmonics.





Caution

If the problem of harmonics is not resolved, erratic break downs may occur at any times on the entire electrical network where the effect of harmonics will hit.